

<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional) <b>22224-05648</b>									
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]  on _____  Signature _____  Typed or printed name _____	Application Number  <b>10/014,919</b>	Filed  <b>December 11, 2001</b>									
	First Named Inventor <b>Andrew B. Baker</b>										
	Art Unit  <b>3693</b>	Examiner  <b>Thuan Q. Tran</b>									
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <table style="width: 100%; border: none;"><tr><td style="width: 50%; vertical-align: top; padding: 5px;"><input type="checkbox"/> applicant/inventor.</td><td style="width: 50%; vertical-align: top; padding: 5px;"><b>/Brian Hoffman/</b> _____ Signature</td></tr><tr><td style="vertical-align: top; padding: 5px;"><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</td><td style="vertical-align: top; padding: 5px;"><b>Brian Hoffman</b> _____ Typed or printed name</td></tr><tr><td style="vertical-align: top; padding: 5px;"><input checked="" type="checkbox"/> attorney or agent of record. Registration number <b>39,713</b></td><td style="vertical-align: top; padding: 5px;"><b>415-875-2484</b> _____ Telephone number</td></tr><tr><td style="vertical-align: top; padding: 5px;"><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</td><td style="vertical-align: top; padding: 5px;"><b>August 25, 2010</b> _____ Date</td></tr></table> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p>				<input type="checkbox"/> applicant/inventor.	<b>/Brian Hoffman/</b> _____ Signature	<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)	<b>Brian Hoffman</b> _____ Typed or printed name	<input checked="" type="checkbox"/> attorney or agent of record. Registration number <b>39,713</b>	<b>415-875-2484</b> _____ Telephone number	<input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____	<b>August 25, 2010</b> _____ Date
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<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.											

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## **ATTACHMENT TO THE PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Pre-appeal review is requested because the rejections of record are improper for at least the reasons set forth below.

### **Status of the claims**

Claims 11-30 and 34-51 are pending and stand rejected. Claims 11-22, 28-30, and 34-36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith et al. (“Iterative Flattening”) in view of Amico et al. (“Applying tabu search to the job-shop scheduling problem”), in further view of Faaland et al., U.S. Patent 5,524,088. Claims 37-47 and 59-51 are rejected under § 103(a) as being unpatentable over Smith in view of Amico in further view of Stidsen et al. (“Jobshop scheduling in a shipyard”) in further view of Faaland. Claims 23 and 27 are rejected under § 103(a) as being unpatentable over Smith in view of Amico in further view of Caulfield, U.S. 2002/0065702 in further view of Faaland. Claim 48 is rejected under § 103(a) as being unpatentable over Smith in view of Amico in further view of Stidsen in further view of Caulfield. Claims 1-10 are canceled and claims 31-33 are withdrawn.

### **The rejections of claims 11, 17, 34, 37, 43, and 50 contain clear error**

Independent claim 17 recites a method for generating a schedule of start times for a plurality of tasks for a project. The method comprises receiving data representative of the tasks and generating a proposed schedule of start times for the tasks. The proposed schedule is generated responsive to fluctuations of resources utilized to perform the tasks. The scheduling method further comprises:

evaluating...the proposed schedule of start times for the plurality of tasks to  
estimate an associated cost, **wherein the associated cost is based**

**significantly on properties of the proposed schedule other than duration;...**

Thus, the proposed schedule is evaluated to estimate an associated cost, where the cost is based significantly on properties of the proposed schedule **other than duration**.

The cited references do not estimate costs for a schedule based significantly on properties other than duration. In rejecting claim 17, Examiner acknowledges that Smith and Amico do not teach use of a cost based significantly on properties other than duration. Office Action of April 30, 2010, p. 4. Instead, Examiner relies on Faaland for this element.

Faaland, however, explicitly teaches using costs based on duration. Faaland describes a technique for cost-based resource scheduling. Faaland's technique describes a schedule as a graph, and assigns each node of the graph a cost "which corresponds to cost or savings due to **delaying the task one time unit**" Faaland, Abstract (emphasis added). In general, Faaland describes two types of costs: inventory carrying costs and delayed delivery costs. Inventory carrying costs are a consequence of the fact that a schedule is of too **short a duration**, so that the schedule is complete and the products of the schedule must be stored ("carried") prior to delivery. Delayed delivery costs are a consequence of the fact that the schedule is of too **long a duration**, so that the schedule is not complete in time and the products are delivered late. Thus, the costs used in Faaland are based **on duration**.

The portions of Faaland cited by Examiner to support the rejection illustrate the distinctions between Faaland and the claimed invention. Examiner specifically references Faaland's inventory carrying and late delivery costs and cites to col. 2, lines 10-15 and 31-34, col. 5, line 58 to col. 6, line 15, and col. 11, lines 1-16. Column 2 at lines 10-15 briefly mentions how Faaland's technique minimizes inventory carrying and late delivery costs. Lines 31-34 of the same column describe how Faaland applies a Maximum Flow Procedure that identifies tasks

that can be “profitably delayed.”

The portions of columns 5 and 6 cited by Examiner also describe costs based on duration. Column 5 describes how a product can be delivered on or after its due date and has associated late delivery costs. Column 6 describes how intermediate tasks have a negative unit delay cost “to reflect the savings that their postponement would produce in work-in-process inventory costs.” Faaland, col. 6, lines 4-6. The cited portion of col. 6 also describes carrying and delayed delivery costs and states, e.g., that “[e]nd-product tasks can be delayed past their due date if the cost can be offset by savings in inventory carry costs.” Faaland, col. 11, lines 6-8.

Accordingly, the rejection of claim 17 contains clear error because the cited references fail to disclose or suggest use of an associated cost “based significantly on properties of the proposed schedule **other than duration.**” Examiner acknowledges that Smith and Amico do not show this aspect of claim 17, and Faaland’s costs **are** based on duration. Thus, claim 17 is not obvious in view of the cited references. Claims 11, 34, 37, and 43 are not obvious for at least the same reasons. Therefore, Appellants request that the panel lift the rejection of claims 11, 17, 34, 37, and 43.

**The rejections of claim 22 and its dependents contain clear error**

Claim 22 depends from claim 17 and states that evaluating the proposed schedule of start times for the plurality of tasks includes determining costs associated with resource fluctuations. For example, costs associated with acquiring, using, or releasing physical laborers are examples of costs associated with resource fluctuations as described in Appellants’ Specification at paragraph 13. Costs associated with resource fluctuations are examples of costs based significantly on properties of the proposed schedule other than duration.

Examiner rejects claim 22 based on primarily on Amico and cites to Amico's paragraph 232. However, this rejection is logically inconsistent with the rejection of claim 17 because Examiner has already acknowledged that Amico fails to disclose costs based significantly on properties of the proposed schedule other than duration. Moreover, the cost function described at Amico's page 232 does not determine costs associated with resource fluctuations. Rather, Amico's cost function merely represents the arbitrary cost of a given solution within a set of feasible solutions.

Claim 23 depends from claim 22 and recites examples of costs associated with the resource fluctuations (i.e., the cost based significantly on properties of the proposed schedule other than duration). Specifically, claim 23 says that such costs include at least one of resource acquisitions costs, resource disposition costs, incremental costs for resource over-utilization, and incremental costs for resource under-utilization.

Claim 23 is rejected based primarily on Caulfield. Caulfield describes a way to schedule tasks for an auto repair shop and discusses worker utilization at paragraphs 25 and 33. However, Caulfield uses utilization to estimate how long a repair will take, and is not concerned with costs based significantly on properties of the proposed schedule other than duration such as resource acquisition or disposition costs. Caulfield briefly mentions costs at paragraphs 4 and 24. The first mention describes how a human estimator can estimate the cost and time required for a repair job, while the second mention describes rental car costs incurred when a repair job is delayed. Examiner cites to Caulfield's mention of "idle time" at paragraph 10 to support the rejection. But Caulfield uses idle time to schedule repair tasks, not to determine a cost associated with a proposed schedule. *See* Caulfield, paragraph 17. Therefore, Caulfield in combination with the other cited references does not render claim 23 obvious.

Claims 24-26 depend from claim 23 and recite further examples of such costs, such as hiring/firing costs and overtime costs. These claims are rejected based primarily on paragraph 17 of Borton. Borton describes a business modeling system and discusses employee costs such as hiring and firing costs at paragraph 17. However, Borton uses these costs to assess the budget of an organization, not to evaluate a schedule. It is not apparent how or why a person of ordinary skill in the art would combine Borton's teachings with the other references to produce the claimed method of generating a schedule.

Claim 27 depends from claim 23 and recites use of an idle resource cost. Claim 27 is rejected based on paragraphs 53-54 of Caulfield. However, Caulfield has only 41 numbered paragraphs and thus there is no support for the rejection of claim 27. Claims 24-27 are not obvious in view of Bolton, Caulfield, and the other cited references.

There are clear errors in the rejections of the current claims. Moreover, the claimed invention would not have been obvious to a person of ordinary skill in the art considering the references at the time the invention was made for the reasons given above. Based on the foregoing, Appellants request that the panel reverse the rejections of the claims and either recognize the claims as allowable or issue a new Office action that addresses the deficiencies described above.